



Counselors in Intellectual Property

Wong, Cabello, Lutsch, Rutherford & Brucculeri, P.C.

**RECEIVED
CENTRAL FAX CENTER**

SEP 14 2004

20333 SH 249, Suite 600
Houston, Texas 77070
Direct: 832-446-2428
Fax: 832-446-2424
rginn@counselip.com

FACSIMILE TRANSMISSION COVER SHEET

Date: Tuesday, September 14, 2004

To USPTO - Examiner: Rosanne Koson

Art Unit: 1651

Fax: 703/872-9306

From: Rebecca Ginn (for Marilyn Huston)

Client/Matter #: 213-0086US

Serial No.: 10/619,149

Re: Please see the attached

Pages (including cover page): 8

Comments:

Received in the United States Patent and Trademark Office

1. Courtesy copy of PTO-1449 (6 sheets) as originally filed on October 17, 2003 (per the request of Examiner Koson)

If there is a problem with transmission, please call (832) 446-2400

CONFIDENTIALITY NOTICE

This communication is only for the person named above. Unless otherwise indicated, it contains information that is confidential, privileged or exempt from disclosure under applicable law. If you are not the person named above, or responsible for delivering it to that person, be aware that disclosure, copying, distribution or use of this communication is strictly prohibited. If you have received it in error, or are uncertain as to its proper handling, please immediately notify us by collect telephone and mail the original to us at the above address. Thank you.

**Wong
Cabello**

Counselors in Intellectual Property
Wong, Cabello, Lutsch, Rutherford & Bruculeri, L.L.P.

Rebecca R. Ginn
Direct: 832-446-2428
rginn@counselip.com

**RECEIVED
CENTRAL FAX CENTER**

SEP 14 2004

20333 SH 249, Suite 600
Houston, Texas 77070
Main: 832-446-2400
Facsimile: 832-446-2424

BEST AVAILABLE COPY

September 14, 2004

Examiner Rosanne Koson
United States Patent and Trademark Office
PO Box 1450
Alexandria, Virginia 22313-1450

Re: "Polymer Modified Anti-Angiogenic Serpins"
Serial No.: 10/619,149
Our ref Atty. Docket No. 213-0086US

Examiner Koson,

Per your voice message to Marilyn Huston and the Office Action dated September 8, 2004 I submit a copy of the PTO-1449 as filed on October 17, 2003 in its entirety.

Please feel free to contact Ms. Huston directly if you require anything further.

Sincerely,



Rebecca R. Ginn
Prosecution Specialist

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PAGE 3/8 * RCVD AT 9/14/2004 12:12:50 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:8324462424 * DURATION (mm-ss):04-08

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/619,149
		Filing Date	07-14-03
		First Named Inventor	Sanjeev M. Kumar
		Group Art Unit	
		Examiner Name	
		Attorney Docket Number	213-0086us
Sheet	2	of	6

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	H.F. ABTS, T. WELSS, et al, Cloning and Characterization of Hupin (Protease Inhibitor 13): A New Skin-specific, UV-repressible Serine Proteinase Inhibitor of the Ovalbumin Serpin Family, J. Mol. Biol., 1999, 29-39, vol. 293, Academic Press	
	2	W. AUERBACH and R. AUERBACH, Angiogenesis Inhibition: A Review, Pharmac. Ther., 1994, 265-311, vol. 63, Elsevier Science Ltd.	
	3	A.J. BARTUSKI, Y. KAMACHI, et al, Cytoplasmic Antiproteinase 2 (PI8) and Bomapin (PI10) Map to the Serpin Cluster at 18q21.3, Genomics, 1997, 321-328, vol. 43, Academic Press	
	4	S.P. BECERRA, A. SAGASTI, et al, Pigment Epithelium-derived Factor Behaves Like a Noninhibitory Serpin, Journal of Biological Chemistry, 1995, 25992-25999, vol. 270 no. 43, USA	
	5	V. BROWER, Tumor angiogenesis- new drugs on the block, Nature Biotechnology, October 1999, 963-968, vol. 17	
	6	O.E. BLACQUE and D.M. WORRALL, Evidence for a Direct Interaction between the Tumor Suppressor Serpin, Maspin, and Types I and III Collagen, Journal of Biological Chemistry, 2002, 10783-10788, vol. 277 no. 13, American Society for Biochemistry and Molecular Biology, Inc.	
	7	Y. CAO, Endogenous angiogenesis inhibitors and their therapeutic implications, International Journal of Biochemistry and Cell Biology, 2001, 357-369, vol. 33, Elsevier Science Ltd.	
	8	P. CARMELIET and R.K.JAIN, Angiogenesis in cancer and other diseases, Nature, September 2000, 249-257, vol. 407, Macmillan Magazine Ltd.	
	9	J.CELERIER, G.SCHMID, et al, Characterization of a Human Angiotensinogen Cleaved in Its Reactive Center Loop by a Proteolytic Activity from Chinese Hamster Ovary Cells, Journal of Biological Chemistry, 2000, 10648-10654, vol. 275 no. 14, American Society for Biochemistry and Molecular Biology	
	10	J.CELERIER, A.CRUZ, et al, Angiotensinogen and Its Cleaved Derivatives Inhibit Angiogenesis, Hypertension, 2002, 224-228, vol. 39, American Heart Association	
	11	G.J.CHADER, PEDF: Raising both hopes and questions in controlling angiogenesis, PNAS, February 27, 2001, 2122-2124, vol. 98 no. 5	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/619,449
		Filing Date	07-14-03
		First Named Inventor	Sanjeev M. Kumar
		Group Art Unit	
		Examiner Name	
Sheet	3	of	6
		Attorney Docket Number	213-0086us

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	12	R. CLARK, K. OLSON, et al, Long-acting Growth Hormones Produced by Conjugation with Polyethylene Glycol, Journal of Biological Chemistry, 1996, 21969-21977, vol. 271 no. 36, American Society for Biochemistry and Molecular Biology	
	13	S.E. CRAWFORD, V. STELLMACH, et al, Pigment epithelium-derived factor (PEDF) in neuroblastoma: a multifunctional mediator of Schwann cell antitumor activity, Journal of Cell Science, 2001, 4421-4428, vol. 114	
	14	D.W. DAWSON, O.V. VOLPERT, et al, Pigment Epithelium-Derived Factor: A Potent Inhibitor of Angiogenesis, Science, July 9, 1999, 245-248, vol. 285	
	15	N. FERRARA, The role of vascular endothelial growth factor in pathological angiogenesis, Breast Cancer Research and Treatment, 1995, 127-137, vol. 36	
	16	P.A. FITZPATRICK, D.T. WONG, et al, Functional implications of the modeled structure of maspin, Protein Engineering, 1996, 585-589, vol. 9 no. 7, Oxford University Press	
	17	G.E. FRANCIS, D. FISHER, et al, PEGylation of cytokines and other therapeutic proteins and peptides: the importance of biological optimisation of coupling techniques, International Journal of Hematology, 1998, 1-18, vol. 68, Elsevier Science Ireland Ltd.	
	18	G. GAO, Y. LI, et al, Down-regulation of Vascular Endothelial Growth Factor and Up-regulation of Pigment Epithelium-derived Factor, Journal of Biological Chemistry, 2002, 9492-9497, vol. 277 no. 11, American Society for Biochemistry and Molecular Biology	
	19	G. GASPARINI, The Rationale and Future Potential of Angiogenesis Inhibitors in Neoplasia, Drugs, 1999, 17-38, vol. 58 (1), Adis International Ltd.	
	20	A.W. GRIFFIOEN and G. MOLEMA, Angiogenesis: Potentials for Pharmacologic Intervention in the Treatment of Cancer, Cardiovascular Diseases, and Chronic Inflammation, Pharmacological Reviews, 2000, 237-268, vol. 52 no. 2, American Society for Pharmacology and Experimental Therapeutics	
	21	M.C.-T. HU, et al, Maspin, a Potential Prognostic Marker for Human Cancers, Maspin, May 2002, Mary Hendrix ed., ISBN: 1-58706-097-3	
	22	M. HENDRIX, De-mystifying the mechanism(s) of maspin, Nature Medicine, April 2000, 374-376, vol. 6 no. 4	

Examiner Signature	Date Considered
--------------------	-----------------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (10-01)

Approved for use through 10/31/2002, OMB 0851-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/619,149
		Filing Date	07-14-03
		First Named Inventor	Sanjeev M. Kumar
		Group Art Unit	
		Examiner Name	
Sheet 4 of 6	Attorney Docket Number	213-0086us	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	23	R.HUBER and R.W.CARRELL, Implications of the Three-Dimensional Structure of alpha(1)-Antitrypsin for Structure and Function of Serpins, Biochemistry, November 14, 1989, 8952-8966, vol.28 no.23, American Chemical Society	
	24	G.KLEMENT, et al, Continuous low-dose therapy with vinblastine and VEGF receptor-2 antibody induces sustained tumor regression without overt toxicity, Journal of Clinical Investigation, April 2000, R15-R24, vol. 105 no.8	
	25	K.KOZAKI, et al, Isolation, Purification, and Characterization of a Collagen-associated Serpin, Caspin, Produced by Murine Colon Adenocarcinoma Cells, Journal of Biological Chemistry, 1998, 15125-15130, vol.273 no.24, American Society for Biochemistry and Molecular Biology	
	26	H.LARSSON, et al, Antiangiogenic Effects of Latent Antithrombin through Perturbed Cell-Matrix Interactions and Apoptosis of Endothelial Cells, Cancer Research, December 1, 2000, 6723-6729, vol. 60	
	27	S.LIEKENS, et al, Angiogenesis: regulators and clinical applications, Biochemical Pharmacology, 2001, 253-270, vol. 61, Elsevier Science Ltd.	
	28	R.MEHVAR, Modulation of the Pharmacokinetics and Pharmacodynamics of Proteins by Polyethylene Glycol Conjugation, J Pharm Pharmaceut Sci, 2000, 125-136, vol.3 no.1	
	29	M.S.O'REILLY, et al, Antiangiogenic Activity of the Cleaved Conformation of the Serpin Antithrombin, Science, September 17, 1999, 1926-1928, vol. 285	
	30	P.A.PEMBERTON, et al, Maspin is an Intracellular Serpin that Partitions into Secretory Vesicles and is Present at the Cell Surface, Journal of Histochemistry and Cytochemistry, 1997, 1697-1706, vol. 45 no.12, Histochemical Society	
	31	M.J.ROBERTS, et al, Chemistry for peptide and protein PEGylation, Advanced Drug Delivery Reviews, 2002, 459-476, vol. 54, Elsevier Science	
	32	S.SHENG, et al, Maspin acts at the cell membrane to inhibit invasion and motility of mammary and prostatic cancer cells, Proc. Natl. Acad. Sci., October 1996, 11669-11674, vol. 93	
	33	S.SHENG, et al, Tissue-type plasminogen activator is a target of the tumor suppressor gene maspin, Proc. Natl. Acad. Sci., January 1998, 499-504, vol.95	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional).

² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/619,149
		Filing Date	07-14-03
		First Named Inventor	Sanjeev M. Kumar
		Group Art Unit	
		Examiner Name	
Sheet	5	of	6
		Attorney Docket Number	213-0086us

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	34	H.SHI, et al, Inhibition of Breast Tumor Progression by Systemic Delivery of the Maspin Gene in a Syngeneic Tumor Model, Molecular Therapy, June 2002, 755-761, vol.5 no.6, American Society of Gene Therapy	
	35	M.SIMONOVIC, et al, Crystal structure of human PEDF, a potent antiangiogenic and neurite growth-promoting factor, PNAS, September 25, 2001, 11131-11135, vol. 98 no. 20	
	36	P.SPRING, et al, Identification and cDNA Cloning of headpin, a Novel Differentially Expressed Serpin the Maps to Chromosome 18q, Biochemical and Biophysical Research Communications, 1999, 299-304, vol.264, American Press	
	37	F.R.STEELE, et al, Pigment epithelium-derived factor: Neurotrophic activity identification as a member of the serine protease inhibitor gene family, Proc. Natl. Acad. Sci., February 1992, 1526-1530, vol. 90	
	38	V.STELLMACH, et al, Prevention of ischemia-induced retinopathy by the natural ocular antiangiogenic agent pigment epithelium-derived factor, PNAS, February 27, 2001, 2593-2597, vol.98 no.5	
	39	F.M. VERONESE, Peptide and protein PEGylation a review of problems and solutions, Biomaterials, 2001, 405-417, vol. 22, Elsevier Science Ltd.	
	40	O.V.VOLPERT, et al, Inducer-stimulated Fas targets activated endothelium for destruction by anti-angiogenic thrombospondin-1 and pigment epithelium-derived factor, Nature Medicine, April 2002, 349-357, vol.8 no.4	
	41	W.ZHANG and M.ZHANG, Tissue microarray analysis of maspin expression and its reverse correlation with mutant p53 in various tumors, International Journal of Oncology, 2002, 1145-1150, vol. 20	
	42	S.ZALIPSKY, Chemistry of polyethylene glycol conjugates with biologically active molecules, Advanced Drug Delivery Reviews, 1995, 157-182, vol.16, Elsevier Science Ltd.	
	43	M.ZHANG, et al, Maspin is an angiogenesis inhibitor, Nature Medicine, February 2000, 196-199, vol.6 no.2.	
	44	Z.ZOU, et al, Maspin, a Serpin with Tumor-Suppressing Activity in Human Mammary Epithelial Cells, Science, January 28, 1994, 526-529, vol.263	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional).

² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patent Examination, Patent and Trademark Office, Washington, DC 20231.

PTO/SB/DAB (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/619,149
				Filing Date	07-14-03
				First Named Inventor	Sanjeev M. Kumar
				Group Art Unit	
				Examiner Name	
				Attorney Docket Number	213-0086us
Sheet	6	of	6		

[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional).

² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☒ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.